

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: STREETWORKS

Report Number: P195711

Luminaire Tested: **NVN-AF-03-LED-U-SL4-7050**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P195711  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24284)  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: STREETWORKS  
Catalog Number: NVN-AF-03-LED-U-SL4-7050  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(3) 70 CRI, 5000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV  
SPILL LIGHT ELIMINATOR OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 17281 lumens  
Efficiency: N/A  
Efficacy: 104.1 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')  
IES Classification: Type IV - Short - Non-Cutoff  
BUG Rating: B2 - U0 - G4

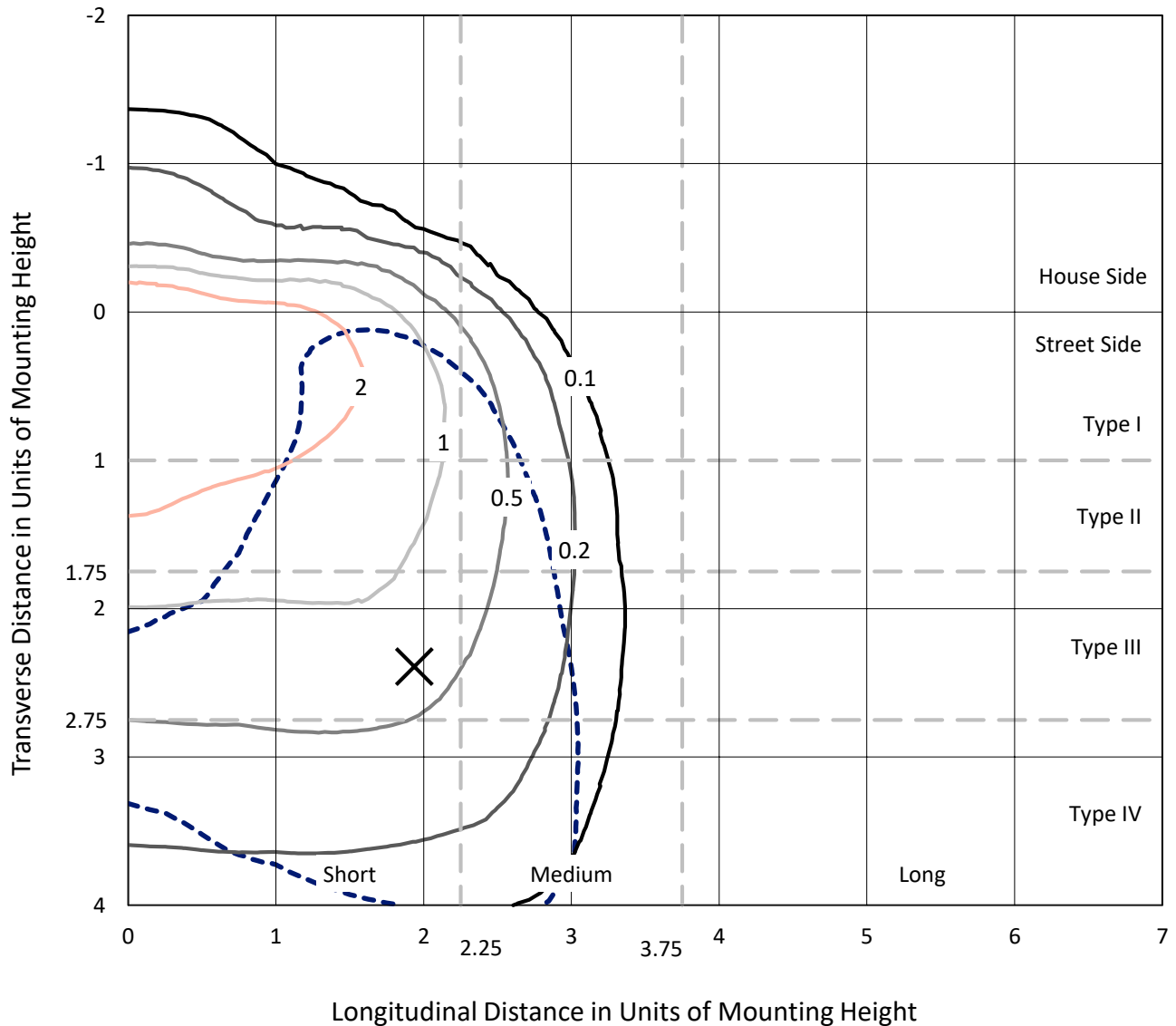
Input Watts (W): 166  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

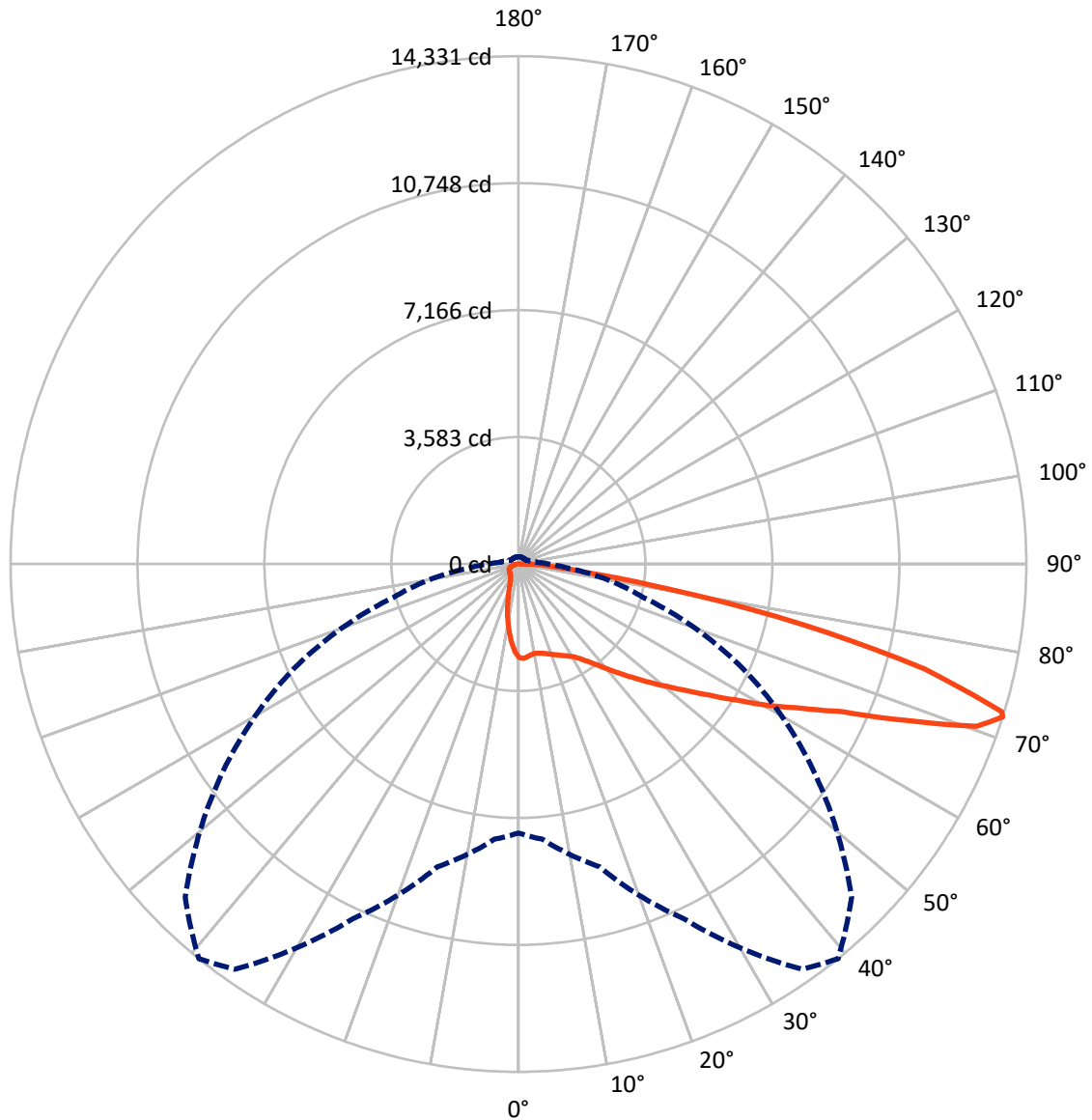
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.2 fc  
 Type IV - Short - Non-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 39-Deg Lateral      - - - Horizontal Cone Through 72-Deg Vertical

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**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 1981.5   | 0.0    | 1981.5  |
|                    | % Fixture | 11.5     | 0.0    | 11.5    |
| <b>Street Side</b> | Lumens    | 15299.5  | 0.0    | 15299.5 |
|                    | % Fixture | 88.5     | 0.0    | 88.5    |
| <b>Total</b>       | Lumens    | 17281.0  | 0.0    | 17281.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 226.8   | 1.3       |
| 10°-20°   | 569.9   | 3.3       |
| 20°-30°   | 888.1   | 5.1       |
| 30°-40°   | 1367.4  | 7.9       |
| 40°-50°   | 2229.2  | 12.9      |
| 50°-60°   | 3463.9  | 20.0      |
| 60°-70°   | 4636.3  | 26.8      |
| 70°-80°   | 3334.2  | 19.3      |
| 80°-90°   | 565.2   | 3.3       |
| 90°-100°  | 0.0     | 0.0       |
| 100°-110° | 0.0     | 0.0       |
| 110°-120° | 0.0     | 0.0       |
| 120°-130° | 0.0     | 0.0       |
| 130°-140° | 0.0     | 0.0       |
| 140°-150° | 0.0     | 0.0       |
| 150°-160° | 0.0     | 0.0       |
| 160°-170° | 0.0     | 0.0       |
| 170°-180° | 0.0     | 0.0       |
| 0°-90°    | 17281.0 | 100.0     |
| 0°-180°   | 17281.0 | 100.0     |



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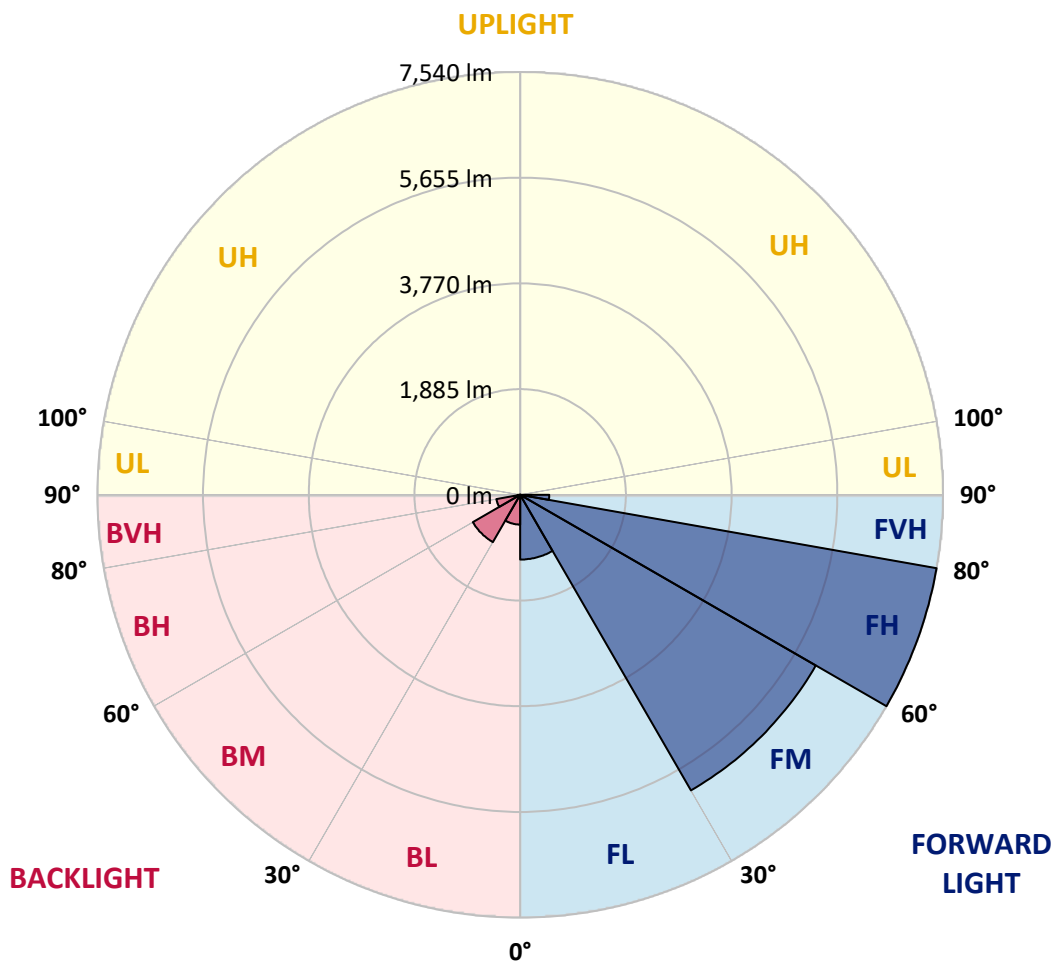
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |          |
|------|-------------|--------|-----------|-------------------------|------|----------|
|      |             |        |           | B                       | U    | G        |
| FL   | (0°-30°)    | 1154.3 | 6.7       |                         |      |          |
| FM   | (30°-60°)   | 6086.7 | 35.2      |                         |      |          |
| FH   | (60°-80°)   | 7540.0 | 43.6      |                         |      | G4/12000 |
| FVH  | (80°-90°)   | 518.5  | 3.0       |                         |      | G4/750   |
| BL   | (0°-30°)    | 530.4  | 3.1       | B2/1000                 |      |          |
| BM   | (30°-60°)   | 973.8  | 5.6       | B1/1000                 |      |          |
| BH   | (60°-80°)   | 430.5  | 2.5       | B1/500                  |      | G1/500   |
| BVH  | (80°-90°)   | 46.7   | 0.3       |                         |      | G1/100   |
| UL   | (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |          |
| UH   | (100°-180°) | 0.0    | 0.0       |                         | U0/0 |          |

**BUG Rating: B2-U0-G4**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°     | 35°     | 39°     | 45°     | 55°     | 65°     | 75°    | 85°    |
|-------|--------|--------|--------|---------|---------|---------|---------|---------|---------|--------|--------|
| 0°    | 2639.1 | 2639.1 | 2639.1 | 2639.1  | 2639.1  | 2639.1  | 2639.1  | 2639.1  | 2639.1  | 2639.1 | 2639.1 |
| 2.5°  | 2696.0 | 2697.1 | 2693.6 | 2683.2  | 2673.9  | 2669.3  | 2661.2  | 2647.2  | 2628.7  | 2615.9 | 2605.5 |
| 5°    | 2670.4 | 2673.9 | 2671.6 | 2654.2  | 2638.0  | 2628.7  | 2615.9  | 2596.2  | 2571.8  | 2561.4 | 2537.0 |
| 7.5°  | 2650.7 | 2653.0 | 2646.1 | 2626.4  | 2595.0  | 2583.4  | 2560.2  | 2534.7  | 2512.7  | 2497.6 | 2468.6 |
| 10°   | 2636.8 | 2639.1 | 2633.3 | 2613.6  | 2578.8  | 2564.9  | 2537.0  | 2509.2  | 2480.2  | 2461.6 | 2429.1 |
| 12.5° | 2617.1 | 2621.7 | 2621.7 | 2612.4  | 2589.2  | 2580.0  | 2552.1  | 2522.0  | 2495.3  | 2475.6 | 2434.9 |
| 15°   | 2613.6 | 2619.4 | 2629.8 | 2628.7  | 2621.7  | 2614.8  | 2592.7  | 2562.6  | 2539.4  | 2516.2 | 2466.3 |
| 17.5° | 2642.6 | 2655.4 | 2676.2 | 2683.2  | 2678.6  | 2663.5  | 2638.0  | 2610.1  | 2584.6  | 2562.6 | 2501.1 |
| 20°   | 2715.7 | 2722.6 | 2754.0 | 2767.9  | 2744.7  | 2722.6  | 2689.0  | 2653.0  | 2629.8  | 2612.4 | 2533.6 |
| 22.5° | 2825.9 | 2835.2 | 2860.7 | 2861.8  | 2813.1  | 2786.4  | 2743.5  | 2699.4  | 2677.4  | 2670.4 | 2577.6 |
| 25°   | 3002.2 | 2999.9 | 3006.9 | 2977.9  | 2889.7  | 2858.4  | 2806.2  | 2755.1  | 2740.0  | 2754.0 | 2642.6 |
| 27.5° | 3213.3 | 3207.5 | 3185.5 | 3110.1  | 2976.7  | 2936.1  | 2873.4  | 2828.2  | 2828.2  | 2860.7 | 2730.8 |
| 30°   | 3457.0 | 3451.2 | 3379.2 | 3252.8  | 3079.9  | 3033.5  | 2967.4  | 2919.9  | 2944.2  | 3006.9 | 2850.2 |
| 32.5° | 3714.5 | 3693.6 | 3592.7 | 3423.3  | 3227.3  | 3176.2  | 3112.4  | 3063.7  | 3110.1  | 3216.8 | 3021.9 |
| 35°   | 3956.9 | 3945.3 | 3821.2 | 3620.5  | 3417.5  | 3374.6  | 3330.5  | 3270.2  | 3344.4  | 3510.3 | 3264.4 |
| 37.5° | 4207.5 | 4198.2 | 4046.3 | 3832.8  | 3649.5  | 3620.5  | 3583.4  | 3541.6  | 3661.1  | 3879.2 | 3592.7 |
| 40°   | 4487.1 | 4468.5 | 4277.1 | 4063.7  | 3919.8  | 3905.9  | 3886.2  | 3874.6  | 4067.1  | 4392.0 | 4008.0 |
| 42.5° | 4803.8 | 4767.8 | 4520.7 | 4317.7  | 4214.5  | 4226.1  | 4215.6  | 4262.0  | 4556.7  | 4983.6 | 4502.2 |
| 45°   | 5165.7 | 5093.8 | 4763.2 | 4588.0  | 4540.4  | 4586.8  | 4608.9  | 4727.2  | 5135.6  | 5666.9 | 5054.3 |
| 47.5° | 5504.4 | 5411.6 | 5028.8 | 4881.5  | 4908.2  | 4988.2  | 5050.9  | 5259.7  | 5770.1  | 6342.0 | 5618.1 |
| 50°   | 5816.5 | 5712.1 | 5313.0 | 5185.4  | 5315.4  | 5429.0  | 5559.0  | 5853.6  | 6445.3  | 7036.9 | 6135.5 |
| 52.5° | 6047.4 | 5971.9 | 5597.3 | 5517.2  | 5782.9  | 5933.7  | 6141.3  | 6513.7  | 7127.4  | 7699.3 | 6597.2 |
| 55°   | 6226.0 | 6185.4 | 5874.5 | 5897.7  | 6311.8  | 6527.6  | 6779.3  | 7207.4  | 7848.9  | 8293.2 | 6968.4 |
| 57.5° | 6432.5 | 6402.3 | 6191.2 | 6357.1  | 6968.4  | 7239.9  | 7536.9  | 8012.5  | 8535.7  | 8816.4 | 7259.6 |
| 60°   | 6650.6 | 6650.6 | 6543.9 | 6910.4  | 7789.8  | 8100.6  | 8396.5  | 8766.5  | 9220.1  | 9287.4 | 7377.9 |
| 62.5° | 6815.3 | 6858.2 | 6896.5 | 7499.7  | 8569.3  | 8955.6  | 9280.4  | 9635.4  | 9928.9  | 9519.4 | 7099.5 |
| 65°   | 7054.3 | 7145.9 | 7361.7 | 8180.7  | 9534.5  | 10040.3 | 10478.8 | 10776.9 | 10503.1 | 9334.9 | 6191.2 |
| 67.5° | 7464.9 | 7600.7 | 8060.0 | 9194.6  | 11012.4 | 11769.9 | 12195.6 | 11680.6 | 10390.6 | 8173.7 | 4742.3 |
| 70°   | 7835.0 | 8026.4 | 8811.8 | 10481.1 | 12933.4 | 13719.9 | 13523.9 | 11470.6 | 9049.6  | 5991.7 | 2917.5 |
| 72°   | 7589.1 | 7797.9 | 8846.6 | 11041.4 | 13960.1 | 14331.3 | 13297.7 | 10165.5 | 6992.8  | 3656.5 | 1438.5 |
| 72.5° | 7427.8 | 7644.7 | 8734.0 | 11027.5 | 13987.9 | 14253.6 | 12983.3 | 9647.0  | 6347.8  | 3199.4 | 1163.5 |
| 75°   | 6205.1 | 6390.7 | 7510.2 | 9773.4  | 12326.7 | 11839.5 | 10131.9 | 6243.4  | 2917.5  | 1033.6 | 598.6  |
| 77.5° | 4052.1 | 4193.6 | 5178.5 | 6771.2  | 8634.3  | 8165.6  | 6166.8  | 2923.3  | 1093.9  | 627.6  | 450.1  |
| 80°   | 2035.9 | 2136.8 | 2771.4 | 3560.2  | 4659.9  | 4287.6  | 2846.8  | 1414.1  | 732.0   | 453.6  | 353.8  |
| 82.5° | 1416.4 | 1509.2 | 1908.3 | 1817.8  | 1947.7  | 1885.1  | 1338.7  | 1179.8  | 547.5   | 286.5  | 185.6  |
| 85°   | 1187.9 | 1284.2 | 1578.8 | 1295.8  | 1060.3  | 966.3   | 959.4   | 1114.8  | 361.9   | 141.5  | 156.6  |
| 87.5° | 1035.9 | 1182.1 | 1302.7 | 946.6   | 727.4   | 641.5   | 706.5   | 1022.0  | 114.8   | 77.7   | 47.6   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0    | 0.0    |



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**CANDELA DISTRIBUTION (continued):**

|       | 90°    | 95°    | 105°   | 115°   | 125°   | 135°   | 145°   | 155°   | 165°   | 175°   | 180°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 2639.1 | 2639.1 | 2639.1 | 2639.1 | 2639.1 | 2639.1 | 2639.1 | 2639.1 | 2639.1 | 2639.1 | 2639.1 |
| 2.5°  | 2588.1 | 2584.6 | 2567.2 | 2540.5 | 2520.8 | 2508.0 | 2483.7 | 2482.5 | 2484.8 | 2464.0 | 2472.1 |
| 5°    | 2515.0 | 2501.1 | 2455.8 | 2394.3 | 2344.5 | 2296.9 | 2244.7 | 2227.3 | 2212.2 | 2180.9 | 2184.4 |
| 7.5°  | 2438.4 | 2414.1 | 2335.2 | 2234.3 | 2138.0 | 2049.8 | 1962.8 | 1919.9 | 1887.4 | 1846.8 | 1846.8 |
| 10°   | 2393.2 | 2354.9 | 2234.3 | 2086.9 | 1933.8 | 1805.0 | 1675.1 | 1597.4 | 1540.5 | 1488.3 | 1484.9 |
| 12.5° | 2390.9 | 2332.9 | 2164.7 | 1961.6 | 1751.7 | 1570.7 | 1393.2 | 1273.7 | 1189.1 | 1127.6 | 1121.8 |
| 15°   | 2409.4 | 2328.2 | 2106.7 | 1844.5 | 1580.0 | 1344.5 | 1125.3 | 973.3  | 865.4  | 797.0  | 790.0  |
| 17.5° | 2425.7 | 2322.4 | 2044.0 | 1721.5 | 1412.9 | 1126.4 | 882.8  | 725.0  | 622.9  | 567.3  | 561.5  |
| 20°   | 2440.8 | 2309.7 | 1964.0 | 1591.6 | 1228.5 | 922.2  | 690.2  | 562.6  | 495.3  | 464.0  | 460.5  |
| 22.5° | 2462.8 | 2298.1 | 1880.4 | 1445.4 | 1047.5 | 750.6  | 569.6  | 477.9  | 442.0  | 426.9  | 424.6  |
| 25°   | 2498.8 | 2299.2 | 1799.2 | 1295.8 | 881.6  | 625.3  | 493.0  | 436.2  | 416.5  | 406.0  | 406.0  |
| 27.5° | 2551.0 | 2313.1 | 1719.2 | 1143.8 | 741.3  | 539.4  | 447.8  | 414.1  | 401.4  | 393.3  | 390.9  |
| 30°   | 2627.5 | 2338.7 | 1634.5 | 1000.0 | 629.9  | 480.3  | 421.1  | 400.2  | 389.8  | 382.8  | 381.7  |
| 32.5° | 2738.9 | 2383.9 | 1545.2 | 868.9  | 545.2  | 438.5  | 401.4  | 388.6  | 380.5  | 374.7  | 373.5  |
| 35°   | 2904.8 | 2464.0 | 1458.2 | 757.5  | 484.9  | 408.3  | 385.1  | 374.7  | 370.1  | 367.7  | 366.6  |
| 37.5° | 3148.4 | 2592.7 | 1375.8 | 670.5  | 445.5  | 388.6  | 368.9  | 363.1  | 360.8  | 360.8  | 360.8  |
| 40°   | 3454.6 | 2762.1 | 1301.6 | 609.0  | 423.4  | 373.5  | 357.3  | 352.7  | 352.7  | 353.8  | 353.8  |
| 42.5° | 3827.0 | 2974.4 | 1237.8 | 567.3  | 410.7  | 363.1  | 349.2  | 346.9  | 345.7  | 345.7  | 346.9  |
| 45°   | 4259.7 | 3224.9 | 1198.3 | 534.8  | 401.4  | 357.3  | 343.4  | 342.2  | 337.6  | 335.3  | 335.3  |
| 47.5° | 4694.7 | 3492.9 | 1196.0 | 516.2  | 389.8  | 350.3  | 337.6  | 337.6  | 328.3  | 323.7  | 324.8  |
| 50°   | 5100.7 | 3733.0 | 1221.5 | 511.6  | 382.8  | 339.9  | 331.8  | 332.9  | 320.2  | 314.4  | 313.2  |
| 52.5° | 5427.9 | 3916.3 | 1252.9 | 517.4  | 382.8  | 330.6  | 321.3  | 327.1  | 313.2  | 306.3  | 305.1  |
| 55°   | 5680.8 | 4043.9 | 1264.5 | 530.1  | 387.5  | 322.5  | 312.1  | 321.3  | 310.9  | 301.6  | 301.6  |
| 57.5° | 5861.7 | 4084.5 | 1214.6 | 535.9  | 394.4  | 321.3  | 302.8  | 320.2  | 314.4  | 302.8  | 302.8  |
| 60°   | 5795.6 | 3849.1 | 1029.0 | 513.9  | 393.3  | 319.0  | 295.8  | 322.5  | 326.0  | 313.2  | 313.2  |
| 62.5° | 5279.4 | 3220.3 | 826.0  | 464.0  | 373.5  | 310.9  | 287.7  | 320.2  | 334.1  | 329.5  | 327.1  |
| 65°   | 4298.0 | 2361.9 | 640.3  | 404.9  | 339.9  | 293.5  | 270.3  | 299.3  | 315.5  | 320.2  | 321.3  |
| 67.5° | 3028.9 | 1495.3 | 497.7  | 344.5  | 298.1  | 268.0  | 250.6  | 264.5  | 270.3  | 272.6  | 277.3  |
| 70°   | 1656.6 | 809.7  | 395.6  | 290.0  | 255.2  | 242.5  | 229.7  | 230.9  | 228.5  | 226.2  | 228.5  |
| 72°   | 831.8  | 529.0  | 334.1  | 251.7  | 226.2  | 218.1  | 212.3  | 208.8  | 208.8  | 205.3  | 206.5  |
| 72.5° | 715.8  | 491.9  | 322.5  | 242.5  | 219.2  | 212.3  | 207.6  | 204.2  | 203.0  | 200.7  | 201.8  |
| 75°   | 476.8  | 389.8  | 269.1  | 203.0  | 186.8  | 182.1  | 184.4  | 181.0  | 182.1  | 179.8  | 181.0  |
| 77.5° | 385.1  | 335.3  | 228.5  | 171.7  | 160.1  | 153.1  | 157.8  | 158.9  | 161.2  | 158.9  | 157.8  |
| 80°   | 322.5  | 285.4  | 191.4  | 141.5  | 133.4  | 127.6  | 129.9  | 138.0  | 139.2  | 132.2  | 131.1  |
| 82.5° | 208.8  | 229.7  | 150.8  | 110.2  | 102.1  | 99.8   | 105.6  | 113.7  | 116.0  | 106.7  | 104.4  |
| 85°   | 175.2  | 184.4  | 109.0  | 75.4   | 67.3   | 65.0   | 76.6   | 84.7   | 90.5   | 81.2   | 78.9   |
| 87.5° | 48.7   | 90.5   | 53.4   | 36.0   | 30.2   | 30.2   | 37.1   | 44.1   | 52.2   | 53.4   | 53.4   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)